

TO: DIANE KISSELL
FROM: MARIE BUTLER-KNIGHT (X. 1948)
RE: REVISED EDITION OF THE KEYBOARD COMPONENT OWNER'S BOOK (#1149)
DATE: AUGUST 7, 1980

FRONT

Mattel Electronics®

INTELLIVISION™

Intelligent Television

K E Y B O A R D C O M P O N E N T

O W N E R ' S B O O K

No. 1149-

INSIDE FRONT COVER

THE FAMILY COMPUTER .. RIGHT AT HOME AT YOUR HOUSE

If you're still thinking of computers as overwhelming machines . . . relax.

That was yesterday.

Your INTELLIVISION™ system will domesticate itself in no time. Very soon, you will become familiar with the many ways this sophisticated, but superbly simple instrument can enrich your family's life.

How about some real education, fun & games, money & budget matters, or a pet personal improvement project for starters!

Fit the Master Component into the Keyboard and your INTELLIVISION™ home computer is ready for hook-up to the family room TV set. You'll have all the power you need for the multitude of jobs the system will be doing for you.

You won't have to learn special computer talk. (But you can add a language, BASIC, with the special option we offer.) Nor will you need a separate cassette recorder. Your system has its own, built in.

Everything you need to know about putting your INTELLIVISION together, how to use and take good care of it, is here in this book. Keep the book handy, for easy reference.

Once your INTELLIVISION is assembled and hooked up, take a little time to get acquainted! Turn it on and run your fingers over the keys. (Don't worry if you hit a wrong key. This book will show you how easy it is to get unsnarled if need be.)

Treat your INTELLIVISION like a new piano in the family. The more you play with it, the better you will understand and enjoy it.

YOUR TOLL-FREE QUESTION NUMBERS: (800) 421-2826, except California.

(213) 644-2752, California residents call direct or collect.

FEEL FREE TO CALL IF YOU HAVE ANY QUESTIONS OR PROBLEMS WITH YOUR SYSTEM.

MODEL NO. _____

SERIAL NO. _____

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LET'S GET UNPACKED . . .

(PIX--Box on floor showing
THIS SIDE UP marking)

Set your Keyboard Component on the floor, right-side-up.

(PIX--Man opening end of box)

Open one end. Try to keep the box intact, as much as possible.

(PIX--Man sliding Keyboard
Component out of box)

Slide the Keyboard Component out of the box, onto the floor.

YOU SHOULD FIND ALL OF THESE PARTS:

(PIX--Keyboard Component with cables extended and all indicated parts shown)

(callouts)	KEYBOARD COMPONENT	FLAT RIBBON CABLE (attached)
	MICROPHONE WITH STAND	POWER CORD (attached)
	CABLE EXTENDER	FIVE 1/2-INCH SCREWS
	OWNER'S BOOK	

(shaded
box)

It's a good idea to save the packing materials, in case you need to move or ship your Keyboard Component in the future.

BEFORE YOU GO ANY FURTHER . . .

Tilt the Keyboard Component and look on the bottom. You will see two numbers -- a model number and a serial number. Take a minute to jot these numbers in the spaces provided on the inside front cover of this book.

(PIX--Bottom of Keyboard with model & serial numbers called out)

MODEL NO.

SERIAL NO.

*changed
see layout*

STEP BY STEP TO A PAINLESS ASSEMBLY

1. Put both HAND CONTROLLERS in place on the Master Component. (PIX--M.C. with one hand controller in place, other being put in place)
2. Unplug the SWITCH BOX CABLE from the back of the Master Component. (PIX--Back of MC with Switch Box Cable being unplugged)
3. Plug the MASTER COMPONENT POWER CORD into the outlet in the recessed area of the Keyboard Component. (PIX--MC power cord plugged into KC. Hand drawing cord around safety posts in KC)

Draw the power cord around the plastic safety posts on the Keyboard Component, following the etched lines. Be sure the power cord is out of the way of the screw holes.

(CALLOUT) SCREW HOLES

A WORD TO THE WISE . . . Leave your Keyboard Component on the floor while you fit the Master Component into it. You won't have to worry about dropping it and you can spread out as much as you like. Of course, UNPLUG YOUR MASTER COMPONENT AND TV SET from their wall outlets before you begin.

THE ONLY TOOL YOU WILL NEED IS A PHILLIPS-HEAD SCREWDRIVER. (PIX)

4. Set the Master Component into the Keyboard Component. Tilt the Master Component up on its left side, as shown. (PIX--MC inside KC tilted up on left with ribbon cable shown)
5. Find the wide, FLAT RIBBON CABLE extending from the Keyboard Component, inside the recessed area. Plug this cable into the Master Component cartridge port. (CALLOUTS) FLAT RIBBON CABLE
CARTRIDGE PORT
6. Ease the Master Component all the way down into the Keyboard Component, pushing excess ribbon cable and power cord into their storage areas.

(CONTINUED)

(shaded
box)

7. Turn the entire unit upside-down, holding the Master Component in place with one hand. (PIX--Man holding unit upside-down and putting screws in place)

Use a Phillips-head screwdriver to fasten the FIVE 1/2-INCH SCREWS through the holes in the bottom of the Keyboard Component. Make sure the unit is unplugged from the wall outlet before you begin.

Turn your INTELLIVISION™ system right-side-up.

8. Snap the Cable Extender onto the plug of the Switch Box Cable. (PIX-- Cable Extender being fitted onto Switch Box Cable)

BEFORE FINAL HOOK-UP . . .

Find a place for your INTELLIVISION™ to live. Look for:

1. A flat surface and a sturdy base. A small table or desk will do nicely.
2. A temperate climate. Best to avoid direct sunlight, heat sources or air-conditioners.
3. Breathing space, between the air vents on the back of your INTELLIVISION and the wall.
4. A location close to your TV set.
5. A wall outlet nearby.

THE LAST CONNECTIONS . . .

1. Plug the Cable Extender into the Master Component, THROUGH THE OPENING in the back of the Keyboard Component. (PIX--Plugging Switch Box Cable with Cable Extender into K.C.)

(callout) CABLE OPENING

2. Plug the POWER CORD ON THE KEYBOARD COMPONENT into a standard wall outlet (120-volt AC \pm 10%, 60 cycle).

. . . AND YOU'RE READY TO "POWER UP!"

P O W E R U P !!

(That means "turn it on.")

1. TURN YOUR TV SET ON.
2. TURN YOUR MASTER COMPONENT OFF/ON SWITCH TO ON.
3. MAKE SURE YOUR ANTENNA SWITCH BOX IS SET AT GAME AND YOUR TV IS SET TO CHANNEL 3 OR 4. (See your Master Component Owner's Manual for details.)
4. PRESS THE RESET BUTTON ON YOUR MASTER COMPONENT. YOU WILL SEE THIS DISPLAY ON YOUR TV SCREEN:

(PIX--monitor frame on Intellivision set up in home)	INTELLIVISION™ Intelligent Television
--	---

For index, type "I" then RETURN)

5. TAKE A MINUTE TO ADJUST THE PICTURE CONTROLS ON YOUR TV SET TO A PLEASING LEVEL. THE ILLUSTRATION ABOVE SHOWS YOU THE CORRECT BACKGROUND COLOR. ADJUST YOUR COLOR CONTROLS TO MATCH. ADJUST BRIGHTNESS AND CONTRAST FOR COMFORTABLE VIEWING.

(shaded
box)

A LITTLE LINGO . . .

A display on your TV set, like the one above, is called a FRAME. This particular frame is called the MONITOR FRAME.

We'll talk more about the monitor frame later. For now, let's say it tells you that you are set to choose the way in which you want to use your INTELLIVISION™.

A shorter, computer way of saying this is that you can choose your MODE.

6. TYPE THE LETTER I, THEN PRESS THE RETURN KEY. AN INDEX OF COMMANDS THAT WILL TAKE YOU TO DIFFERENT MODES OR SPECIAL CAPABILITIES (like Clean) WILL PRINT OUT BELOW THE MONITOR FRAME, PUSHING IT PART-WAY OFF THE TOP OF THE SCREEN. (We call this SCROLLING.) THE INDEX LOOKS LIKE THIS:

(PIX--Index on screen beneath half of title)

(CALLOUTS)

COMMANDS

MODES

SPECIAL CAPABILITIES

YOUR INTELLIVISIONSM SYSTEM -- IT GIVES YOU ALL YOU NEED ..

TO DEVELOP NEW SKILLS

(PIX--TV screen with
cassette program)

Drop a cassette into the built-in recorder and let the computer guide you through programs in foreign language, physical fitness, nutrition, income tax preparation, stock market analysis .. even your astrological chart!

Computer keeps track of your progress and stores individual information, so programs are uniquely personal to each family member using them.

Use cassettes with the Master Component and the Keyboard Component in combination.

TO PLAY GAMES

(PIX--TV screen with game
play)

It's as simple as plugging in a game cartridge. Choose from a wide array of sports, gaming, strategy, action and children's learning networks. All are easy to learn, difficult to master.

All games feature a full range of sound effects, broad color spectrum, and a superb level of resolution. Animated figures are lifelike, not blips or stick men.

Game cartridges can be used with the Master Component alone or in combination with the Keyboard Component.

TO WRITE YOUR OWN PROGRAMS

(PIX--TV screen with BASIC
program)

It's easy with BASIC, the high level computer language. The program comes on cartridge and includes a cassette to store your programs and a step-by-step beginners manual that shows you how to make up your own games, plan your vacation, balance your checkbook, analyze investment opportunities, and more.

The specially coded cassette can store up to 32K (32 thousand) bytes of information. And an innovative Automatic Index System lets you get to that information faster than any other computer cassette system.

Use the Master Component and Keyboard Component in combination.

LET'S START WITH A CASSETTE . . .

Not just any cassette. Use ONLY Mattel ElectronicsTM cassettes in your INTELLIVISIONTM system. Others may look the same, but they will not work because they do not have the special electronic coding on all Mattel Electronics[®] cassettes.

(PIX--Cassette housing door open,
inserting cassette, title up.
Display title prominently.)

(CALLOUT) TITLE UP

1. PRESS LETTER KEY "E". THEN PRESS THE RETURN KEY.

The cassette door will open. Put a cassette in, TITLE FACING UP. (If you put the cassette in upside-down, the computer will eject it and print out "I CAN'T SEE A CASSETTE TAPE.")

Close the cassette door.

(PIX--TV screen with this printout:

```
T
> Rewinding ...
> Loading ...
```

2. NOW PRESS LETTER KEY "T" AND THE RETURN KEY.

The computer will automatically rewind the tape to the beginning, if need be. It will tell you if it's doing this by printing "Rewinding ..."

The message "Loading ..." tells you the computer is transferring pre-programmed information from the cassette to its memory. This can take anywhere from a few seconds to a minute.

(PIX--TV screen with title frame
from LaLanne cassette)

3. WHEN THE COMPUTER IS FINISHED LOADING, THE CASSETTE PROGRAM TITLE WILL APPEAR ON YOUR TV SCREEN.
4. FOLLOW THE INSTRUCTIONS THAT COME WITH YOUR CASSETTE.

IF YOU FORGET TO INSERT A TAPE before typing "T" and RETURN, the computer will jog your memory with this message: I CAN'T SEE A CASSETTE TAPE.

Notice that you only need to type the FIRST LETTER of a command (T for Tape, E for Eject, R for Resume, etc.) The exception is CLEAN, Type CL for Clean.

FOR DIRECTIONS ON STOPPING OR INTERRUPTING A CASSETTE PROGRAM, SEE PAGE 14

(shaded
box)

WHILE YOU HAVE A CASSETTE IN, TAKE A COUPLE OF MINUTES TO SET THE VOLUME LEVELS ON THE KEYBOARD COMPONENT. DIRECTIONS FOR THIS PROCEDURE ARE ON PAGE 9.

(shaded
box)

TO GET FROM ANY MODE (like Cassette) BACK TO THE MONITOR FRAME,
SIMPLY HOLD DOWN THE BROWN CTRL KEY WHILE TAPPING THE LETTER C
KEY TWICE, RAPIDLY.

. . . AND ON TO A CARTRIDGE

(PIX--Close up on right side
of KC, showing cartridge
port)

(CALLOUT) CARTRIDGE PORT

(PIX--TV screen with title
from Hockey cartridge)

1. PLUG A CARTRIDGE IN THROUGH THE
OPENING ON THE RIGHT SIDE OF THE
KEYBOARD COMPONENT.

Make sure the cartridge is in as
far as it will go.

2. PRESS THE RESET BUTTON ON THE
MASTER COMPONENT.

3. NOW PRESS LETTER KEY C AND THE
RETURN KEY.

Your TV screen will immediately go
to the Title Frame of the cartridge
you inserted.

4. FOLLOW THE INSTRUCTIONS THAT COME
WITH YOUR CARTRIDGE.

If you forget to insert a cartridge before typing C and RETURN, the
computer will remind you with this little message: "I don't see a
cartridge."

TO REMOVE A CARTRIDGE when you're finished, simply pull it straight out
of the cartridge port.

FOR DIRECTIONS ON STOPPING OR INTERRUPTING A GAME CARTRIDGE WHILE IN PLAY,
SEE PAGE 14.

TYPEWRITER MODE -- NO BETTER WAY TO GET ACQUAINTED

The best way to get thoroughly familiar with your keyboard is to play with it. Simply put the system into Typewriter Mode and go at it! Try out all the keys and all the combinations of keys. Build graphics and experiment with special characters. (We'll explain how later in the book.) Fill up the screen, then erase it and fill it up again.

The nice thing about Typewriter Mode is that once an image is off the screen, it's gone for good .. unless you type it back on. Typewriter Mode has no memory, so you don't have to worry about wasting memory space while you make friends with your INTELLIVISION™ system.

So sit down with the TABLE OF KEYS (pages 18 and 19) and the section on SPECIAL "CONTROL" COMMANDS (pages 20 and 21) and fire away! Remember your start sequence:

1. TURN YOUR TV SET AND MASTER COMPONENT ON. PRESS RESET.
2. TYPE "S" (for Screen) AND PRESS THE RETURN KEY. (It is not necessary to go to the Index every time, if you know what command to type.) THE SCREEN WILL LOOK LIKE THIS TO START -- A PERFECT BLANK FOR YOU TO FILL.

(PIX--Blank screen with cursor in home position)

DON'T WORRY ABOUT HURTING THE KEYBOARD. YOU CAN'T HURT IT BY USING IT.

At worst, the cursor might stick, if you press a number of keys together.

Should this occur, simply PRESS THE DEL (DELETE) KEY SEVERAL TIMES, until the cursor starts to move again. If this doesn't work, TYPE CTRL-C TWICE. (See page 11.) Now you're back to the Monitor Frame, so you can start over again by typing "S" and RETURN.

FOR THOSE WHO BOUGHT BASIC . . .

BASIC is a computer language that lets you write your own programs. It comes on cartridge and includes a specially coded cassette for storing your programs.

- Insert the cassette as you would any other cassette (see page 7).
- The BASIC cartridge goes into a SPECIAL CARTRIDGE PORT (opening) in the BACK of the Keyboard Component.

(PIX--Close up on back of Keyboard Component (CALLOUT) PORT IN BACK OF KEYBOARD COMPONENT showing BASIC cartridge being inserted)

There are two special ports (called I/O ports for Input/Output) in the back of the Keyboard Component. The BASIC cartridge will work in either one.

Lift the protective cover over either port and plug the BASIC cartridge in. Be sure to push it in as far as it will go.

TURNING BASIC ON . . .

1. TURN YOUR TV SET AND MASTER COMPONENT ON. (POWER UP) PRESS THE RESET BUTTON.
2. TYPE "I" FOR INDEX, THEN PRESS THE RETURN KEY. Notice that you now see BASIC listed in the index.
3. TYPE "B", THEN PRESS THE RETURN KEY. This will take you into BASIC Mode.
4. Follow the instructions in the book that accompanies your BASIC cartridge and cassette.

INITIAL VOLUME LEVELS -- SET 'EM AND FORGET 'EM!

It only takes a couple of minutes to set the volume controls on your Keyboard Component. And you only need to do it once, unless you change the controls for any reason.

YOU WILL NEED AN INTELLIVISION™ CASSETTE AND ANY GAME CARTRIDGE FOR THIS PROCEDURE.

FIRST, LOCATE YOUR VOLUME CONTROLS.

(PIX--Close up on left side of K.C. showing volume controls)

Both controls are on the LEFT side of the Keyboard Component (as you face it).

(CALLOUTS) PRE-RECORDED
HOME-RECORDED

The FRONT dial controls volume for PRE-RECORDED material on cassette tapes. This is what's on the tape when you get it.

The REAR dial controls volume for material YOU RECORD on the tape.

NEXT, INSERT BOTH CARTRIDGE AND CASSETTE. If you need a reminder of how to do this, check back to pages 7 and 8.

(PIX--Entire system with cartridge and cassette inserted, cassette housing door open to show cassette)

THEN FOLLOW THESE STEPS:

1. POWER UP. (Turn TV and Master Component ON. Press RESET button.)
2. START THE CARTRIDGE. Press letter key "C", then RETURN key. Then press the round "direction disc" on either hand controller.
3. Adjust the TV VOLUME CONTROL to a pleasing level. Start at about 50% of the maximum volume and raise it higher if need be.
4. Press RESET again and START THE CASSETTE. Type letter key "T", then the RETURN key. Follow the instructions that appear on the screen to start the cassette program. (This will vary depending on which cassette you insert.)
5. Adjust the FRONT KEYBOARD COMPONENT VOLUME CONTROL to a pleasing level.
6. Set the REAR KEYBOARD COMPONENT CONTROL to the SAME level.

That's all there is to it. From now on, the volume can be adjusted with the TV volume control only.

KEEPING CONTROL WITH THE CURSOR

(PIX--Cursor)

The little white square that you see on the screen, that moves when you type, is called the CURSOR. The cursor is a sort of guide, that tells you where the next character you type will appear.

(PIX--Prompt
Character)

Its sidekick is a small arrow pointing to the right, called the PROMPT CHARACTER. When the prompt character appears at the beginning of a line, it is letting you know that the computer is ready to receive a new command or a new line of information (in BASIC).

GETTING BACK TO THE MONITOR FRAME

On page 5, we talked about the ways in which you can use your INTELLIVISION™ system -- that is, its MODES.

A very important mode, not listed in the index, is a sort of "master mode," which we call the MONITOR. The monitor lets you pick from all the other modes and special capabilities -- like TAPE, CARTRIDGE, EJECT, etc.

It's good to know about the monitor, because you cannot jump directly from one mode or special capability to another (say, from cartridge to tape). You have to go through the monitor first.

Whenever you go to the monitor, you see this frame, what we called the MONITOR FRAME on page 5.

(PIX--Monitor frame)

Getting Back to the Monitor Frame (cont'd)

TO GO TO THE MONITOR . . .

- You will automatically go to the monitor whenever you turn your INTELLIVISION™ on.
- If you are in another mode and want to go back to the monitor. . .

HOLD DOWN THE BROWN CTRL (Control) KEY WHILE YOU PRESS THE LETTER KEY C TWICE -- one right after the other. When you return to the Monitor Frame, you will not see the message Type "I" for INDEX, then RETURN.

This special "control command" is a very useful one, that will pop up again in the section on interrupting a program. From now on, it will be written as CTRL-C.

USING THE KEYBOARD TO TALK TO THE MONITOR . . .

The monitor is a real bureaucrat. It does a very specific job (takes you into and out of other modes and special capabilities) and it's a stickler for procedure. The only commands it will listen to are the ones it recognizes from the index (see page 5).

It will only hear these commands if you press the RETURN key after you type your command (T for tape, C for cartridge, etc.).

If you try to give the monitor any other command, it will get suddenly stupid. The results will look like this:

(PIX--Screen with these lines in computer type:

(title)

Type "I" for INDEX, then RETURN

```
> WHAT'S FOR DINNER?  
? I don't understand "WHAT"  
> □
```

When you type in a command to the monitor, this is called ADDRESSING THE MONITOR. (Example: when you type in C for Cartridge)

CAREFUL NOW!! WHEN YOU TYPE A COMMAND TO THE MONITOR, IT WILL PRINT OUT ALL IN CAPITAL LETTERS. DON'T PRESS THE CAPS LOCK OR THE SHIFT KEY WHEN YOU TYPE A COMMAND, OR THE RETURN KEY WON'T ENTER THE COMMAND WHEN YOU PRESS IT. IT WILL SIMPLY ACT AS A CARRIAGE RETURN.

A QUICK OVERVIEW OF THE KEYBOARD

Take a look at the keyboard. Notice that the keys are divided into color groups. Keys in the same color group have similar types of functions -- that is, they do the same kinds of things.

There is a complete TABLE OF KEYS on page 18, that lists the functions of all keys in different modes.

BEIGE keys work as typewriter keys when you use them alone. This works in TYPEWRITER, MONITOR, BASIC, OR TAPE modes (in certain cassette programs).

Beige keys take on special meaning when they are used with the CTRL key. They are then called "command keys." You will find a list of command keys and what they do on page 20.

RED keys are much like their typewriter counterparts. Use them with the beige keys to switch from lower to upper case characters, or use them alone to move the cursor (TAB and RETURN).

The RETURN key has a special job when you address the monitor. It carries the message "I'm finished with this command."

BROWN keys are special computer keys. You can use them alone, with the beige keys (CTRL-C is an example) or with each other (REPEAT with DELETE). These keys differ a great deal from each other, so check directly with the Table of Keys to find out about them.

(PIX-- full color illus. of keyboard component showing all keys)

BLUE keys are manipulators. In TYPEWRITER ^(and BASIC modes,) they move the cursor and cause the screen to scroll up. In some CASSETTE programs, they manipulate the image on the screen. In MONITOR mode, only the ↓ key works, acting as a carriage return.

GETTING THE MOST FROM THE MICROPHONE

Some of the cassette programs, such as Conversational French, allow you to record your responses and play them back, so you can listen and compare your responses to your teacher's. This is an invaluable learning device, especially for conversational language study.

When a program calls for you to use the microphone, it will give you exact instructions on how to use it. Here are some general directions.

1. Plug the microphone into the left side of the Keyboard Component, as shown.

(PIX--Mike being plugged into jack in Keyboard Component)

2. Hold the microphone upright, about 6 inches from your mouth.

(PIX--Person holding mike 6 inches from mouth)

3. When you're ready to record, push the microphone switch (on the microphone) to the ON position.

(PIX--close-up showing mike switch at ON)

4. When you record, speak in a normal, conversational tone. The volume level will automatically adjust to your voice, unless you are whispering or shouting.
5. Follow the instructions with your cassette program for directions on recording and playback.

HOW TO SHUT DOWN WITHOUT SHUTTING OFF

You're in the middle of a French lesson and the phone rings. What do you do? Relax. You can interrupt your INTELLIVISION™ program and come back to it later. Here's how.

CASSETTE

You have two options.

- 1) When you have a little time, TYPE CTRL-C ONCE. (Hold down the CTRL key while you press C once.) Your program will play on for a few frames, then stop. The screen will return to the Monitor Frame.

When you're ready to start again, simply type in R (for RESUME), and press the RETURN key. Your program will pick up again at the point where it stopped.

(PIX--Screen with Monitor Frame and typed command:

> R 

DO NOT press T (for Tape) or the cassette will rewind to the beginning before starting again.

- 2) When you're in a hurry, TYPE CTRL-C TWICE. (Hold down the CTRL key while you press C twice, rapidly.) Your program will stop immediately. The screen will return to the Monitor Frame.

When you type in R and press RETURN, the computer will back the program up a frame or two, to find a point where it can start again.

(shaded
box)

When you type CTRL-C TWICE, be sure to hold down the CTRL key while tapping the C key twice in rapid succession. If you wait more than a second between typing the first and second C, the computer will not understand your command. It will interpret your command as only ONE CTRL-C.

TO SHUT A CASSETTE OFF COMPLETELY . . .

TYPE CTRL-C TWICE, to return to the Monitor Frame. Then TYPE E and PRESS RETURN. The cassette will automatically rewind and eject. Remove the cassette and turn the Master Component and your TV set OFF. Remember that you MUST go to the Monitor Frame before giving the Eject command.

(For emergency eject procedure, see "Computer in Distress", page 27.)

How To Shut Down ... cont'd.

CARTRIDGE

You have three options.

- 1) JUST GET UP AND LEAVE, without doing anything. After 5 minutes, the computer will automatically turn the screen blank. When you're ready to play again, just press the direction disc or any key on a hand controller keypad. Your game will resume where you left off.
- 2) SIMULTANEOUSLY PRESS KEYS 1 AND 9 ON YOUR HAND CONTROLLER KEYPAD. The screen will go blank. Restart the same as in 1) above.
- 3) TYPE CTRL-C TWICE. Your game will stop and the screen will return to the Monitor Frame. When you're ready to play again, type GO and press RETURN. You will be returned to your game at the point where you stopped. (Typing CTRL-C once does not work in cartridge mode.) DO NOT type C only, as this will return you to the START of the game.

BASIC

- 1) TYPE CTRL-C ONCE. The computer will stop running your program, but it will NOT return to the Monitor Frame. Type GO and press RETURN to run your program again.
- 2) TYPE CTRL-C TWICE. Your program will be interrupted and the screen will return to the Monitor Frame. When you're ready to go again, type GO and press RETURN.

DO NOT type BASIC (or B) and press RETURN, as this will erase your interrupted program.

TYPEWRITER

The screen will automatically go blank anytime you leave it for 5 minutes or longer without pressing any of the keys. To restore your last image to the screen, just press one of the blue directional keys.

(Any key will work to restore the image, but most will add the character you type .. or erase one.)

DON'T FORGET THE KIDS

Your INTELLIVISION™ is a family system and that means children can use it too. The Master Component and Keyboard Component are not fragile or "for adults only." They are tough and easy to use, and that makes them ideal for everyone in the family.

Show your children how to use the family INTELLIVISION™. You've probably noticed how quickly they catch on to new ideas. Plug in a Math Fun™ or Word Fun™ cartridge .. or introduce them to a foreign language cassette. They'll have a ball and you'll have an extra teacher around the house.

But that's not all. Show them the Typewriter Mode and let them make up their own word games. We've included some examples in this section. Show them the special graphics characters too, and let them create their own "computer graphics." It's a perfect way to ~~wile~~ wile away a rainy afternoon.

While you're at it, let them learn from the beginning how to take care of the family INTELLIVISION™. Older children can even help with regular maintenance tasks, like cleaning the tape heads.

The important thing is to involve your children with the INTELLIVISION™ early on .. because kids and computers make a great combination. After all, they are both a part of the future.

(ILLUS. THIS PAGE SHOWING CHILDREN WITH INTELLIVISION™)

Don't Forget the Kids (cont'd)

Brain Games for Typewriter Mode

These are only a few examples of "brain" games you can play in Typewriter Mode. You can probably think of more yourself.

GHOST (for 2 or more players)

First player think of a word with 3 to 8 letters. Type the first letter only of your word on the screen. Do not press RETURN.

Next player think of a word that begins with the letter already typed. Add one letter to the screen, without completing any word. Continue like this, with each player adding a letter, until one player completes a word. That player becomes a "fifth of a ghost."

Ex: The first player, thinking of donkey, types D. The second player, thinking of drink, types R. The third player, thinking of droid, types O. The fourth player, thinking of droop, types O. The fifth player can only think of droop and drool. He types P and ends the word.

Allow only one minute for a player to add a letter or challenge by asking the last player to say what word he or she had in mind. If the last player has no word in mind or can't spell it, he or she becomes a "fifth of a ghost." If the last player does have a word in mind and can spell it, the challenger becomes a "fifth of a ghost." No dictionaries allowed, except to check a challenge.

Five fifths make a whole ghost and that player is out of the game. The winner is the player who is left at the end.

WORD WAR (for 2 or more players)

Say a category, such as fruit, animals, colors, trees, fish, and then type a word that is in this category. (Example: "animal" cat)

Take turns typing the words in a category and see who can type the most words that are correct for that category. The war ends when all players but one run out of words.

WORD CHAINS (for 2 or more players)

See how long you and your partner(s) can keep a word chain going. You type a word and the next player begins his or her word with the last letter of the first word. If a player breaks the chain, he or she is out of the game.

(Example: You type crack and the next player types kelp and the next play.)

TABLE OF KEYS

(for MONITOR, TYPEWRITER, BASIC and TAPE modes)

The Keyboard is not generally used in CARTRIDGE mode, so this mode is not included below. Nor are CONTINUE, CLEAN or EJECT, since these are special capabilities that are very specific in what they do and how they do it. These capabilities are covered throughout the book.

BEIGE keys produce whatever character is on the key. In MONITOR mode, beige LETTER keys print out in upper case only.

KEY	MONITOR	TYPEWRITER	BASIC	TAPE
TAB	Moves cursor 4 spaces to the right.	Same	Same	
ESC	No function	No function	See BASIC manual.	No function
LOCK	No function	Locks all LETTER keys in upper case. Number, punctuation & blue directional keys remain in their lower case functions. PRESS AGAIN TO UNLOCK.	Same	No function
CTRL	See "Special Command Keys," page 20.	Same	Same	See introductory paragraph to Special Command Keys, page 20.
CLEAR SCREEN	Used WITH SHIFT KEY to erase the screen and return the cursor to its "home" position (upper left corner of the screen).	Same	Same	No function

(CONTINUED)

TABLE OF KEYS (CONT'D)

KEY	MONITOR	TYPEWRITER	BASIC	TAPE
SHIFT	Switches number, punctuation & blue directional keys to their upper case functions. (Ex: 2 becomes @, etc.)	Same	Same	
↑	No function	Moves cursor 1 space up without erasing character over which it passes.	Moves cursor 1 space up without erasing character over which it passes.	Scrolls screen down in some cassette programs.
←	No function	Backspaces 1 space without erasing character over which it passes. Wraps cursor around.*	Backspaces 1 space without erasing character over which it passes. Wraps cursor around.*	Backspaces 1 frame in some cassette programs.
↓	Enters command and acts as carriage return (moves cursor to the left margin and down 1 line).	Moves cursor 1 space down without erasing character over which it passes. Scrolls screen up when it reaches the bottom of the screen.	Moves cursor 1 space down without erasing character over which it passes. Scrolls screen up when it reaches the bottom of the screen.	Scrolls screen up in some cassette programs.
→	No function	Advances cursor 1 space without erasing character over which it passes. Wraps cursor around.*	Advances cursor 1 space without erasing character over which it passes. Wraps cursor around.*	Advances 1 frame in some cassette programs.
RETURN	Enters command and acts as carriage return.	Acts as carriage return.	Acts as carriage return.	Used in some cassettes to enter typed information.

(CONTINUED)

TABLE OF KEYS (CONT'D)

KEY	MONITOR	TYPEWRITER	BASIC	TAPE
DEL	Backspaces cursor 1 space, erasing character over which it passes.	Same	Same	
REPEAT	Causes any other key to repeat its function continuously, as long as both Repeat and other key are held down.	Same	Same	
SPACE BAR	Moves cursor 1 space to the right.	Moves cursor 1 space to the right, erasing any character over which it passes. Wraps cursor around.*	Moves cursor 1 space to the right.	

* WRAPPING AROUND . . .

As a general rule, where keys that move the cursor are concerned, when the cursor reaches the left margin and disappears, it will reappear at the right margin, one line up. When the cursor reaches the right margin and disappears, it will reappear at the left margin, one line down. This is called "wrapping around."

SPECIAL "CONTROL" COMMANDS

All beige LETTER keys are capable of giving special commands, when they are used with the CTRL key. This works whether the letter key is in upper or lower case.

The ONLY special command you will need when using a cartridge or cassette is CTRL-C. This is explained on page 14.

If you happen to hit the CTRL key with a letter key, while you're in Monitor, Typewriter or Basic modes, the table below will tell you what you can expect the results to be. Many of these special commands aren't really useful to you now (though you might have fun playing around with them), but will be useful with future add-ons.

Whenever you give a special control command, HOLD DOWN THE CTRL KEY WHILE TYPING THE LETTER.

CTRL+	MONITOR	TYPEWRITER (Screen)	BASIC
A	No present function	Scrolls the screen up	No present function
B	No present function	Scrolls the screen down	No present function
C	(twice) Returns screen to Monitor Frame (once) No function.	Same	Same
D	Deletes line to right of cursor.	Same	Same
E	No present function	Special graphics command (see page 22)	No present function
F	No present function	Moves cursor to end of the line.	No present function
G	No present function	Rings bell	No present function
H	Backspaces cursor without erasing character over which it passes.	Same	Same
I	Tab (4 spaces)	Same	Same
J	Same as RETURN key.	Moves cursor down one space without erasing character over which it passes.	Moves cursor down one space without erasing character over which it passes.
K	No present function	Moves cursor to upper left corner of screen without erasing screen.	

SPECIAL "CONTROL" COMMANDS (CONT'd)

CTRL+	MONITOR	TYPEWRITER	BASIC
X L	Clears the screen and returns the cursor to upper left corner of screen.	Same	Same
M	Same as RETURN key.	Carriage return	Carriage return
N	No present function	Special graphics command (see page 22)	No present function
O	No present function	Special graphics command (see page 22)	No present function
P	No present function	No present function	No present function
Q	No present function	No present function	No present function
R	RESUME <i>No present function</i>	Special graphics command (see page 22)	Stops the listing function. <i>No present function</i> Resumes interrupted program
S	No present function	No present function	Continues the listing function.
T	No present function	Reverse tab	No present function
U	Erases line.	Erases line to left of cursor and moves remainder to left margin.	Same as Typewriter Mode.
V	No function	Opens a space where the cursor is, moving the cursor and the rest of the line one space to the right.	Same as Typewriter Mode.
W	No function.	Moves all characters right of the cursor down one line and to left margin.	Same as Typewriter Mode.
X	No function.	Deletes character cursor is over and closes the space.	Same as Typewriter Mode.
Y	No function.	Moves all lines below cursor up one line, replacing characters right of cursor with characters on following line.	Same as Typewriter Mode.
Z	No function.	Clears screen inside margins.	Same as Typewriter Mode.
[No function.	Same as blue → directional key.	Same as Typewriter Mode.

FOR DOODLERS ONLY -- Special Graphics

Every character that the Keyboard Component can produce is stored in its memory. This includes all of the characters on the keys (upper and lower case) PLUS some characters that you won't find on the keys.

These are the SPECIAL GRAPHICS CHARACTERS. Some are notated vowels, used in foreign languages. Others are graphics "building Blocks" -- squares, lines and dots. If you look hard, you may recognize the tiny squares from which animated game figures are built. If you have a language cassette, the foreign vowels might not be so foreign to you.

The special graphics characters are stored WITH the regular characters in the order shown below. We've included them in your Owner's Book because you may want to play with them (as long as they're there).

(PIX--all characters, regular and special graphics)
(CAPTION) Characters here not proportional to screen.

FIRST, GO TO TYPEWRITER MODE.

USE THE BLUE KEYS TO MOVE THE CURSOR TO A PLACE ON THE SCREEN WHERE YOU CAN SEE IT CLEARLY. Your first character will appear to the left of the cursor.

TO GET TO A SPECIAL GRAPHICS CHARACTER (one not shown on the keys):


- Find a character that DOES appear on the keys. Pick one that is close to the special character or group of special characters that you want. (Check the order of characters in the illustration above.) TYPE THAT CHARACTER.

- Move forward or backward along the sequence of characters shown above, until you reach the character or group of characters you want.
 - To move forward (advance to the next character), HOLD DOWN CTRL WHILE YOU PRESS THE LETTER KEY O.


 - To move backward (go to the previous character), HOLD DOWN CTRL WHILE YOU PRESS THE LETTER KEY N.

To move quickly along the sequence of characters, HOLD DOWN CTRL, THE LETTER KEY N OR O AND THE REPEAT KEY. (You may feel a little like an octopus, but it can be done.)

For Doodlers Only (cont'd)

- When you reach the character you want, stop pressing CTRL-O or CTRL-N. Move the cursor to the next place where you want a character to appear. (Use the blue keys so you don't accidentally erase a character.)
- If you want to print out a group of characters across the screen, HOLD THE CTRL KEY DOWN AND PRESS THE BLUE  KEY AFTER EACH N OR O. This will cause the characters to print from left to right.



Do not use the Space Bar, or it will take you to the blank space in the character sequence (see illustration of all characters).

To print in the opposite direction, use the blue  KEY.

IF YOU WANT TO REPEAT A CHARACTER YOU'VE PRINTED, at another point on the screen, follow these steps:

- Place the cursor over the character you want to repeat. TYPE CTRL-E. The computer will remember this character as the one to be repeated, until you type a different character, or use CTRL-E to select a different character to be remembered.
- Now move the cursor to the place where you want the character to be repeated. TYPE CTRL-R. You can repeat a character in this way as many times as you like, as long as you don't type another character during the repeat process. (To repeat a character a number of times in a string, hold down CTRL-R and press the REPEAT key.)

HOW TO USE THE REPEAT COMMANDS TO THEIR BEST ADVANTAGE:

- Find the group of characters you want to use and print them out at the top of the screen. If you need to use a second line, press RETURN when you reach the right margin, then press the  KEY once.
- Use the cursor and the REPEAT commands (CTRL-E and CTRL-R) to pick up individual characters and take them to the point on the screen where you want them to appear.
- When you've finished, press the blue  KEY until the group of characters at the top of the screen scrolls up off the screen, leaving only the characters you moved.


WHAT CAN YOU DO WITH GRAPHICS CHARACTERS???

Here are a couple of examples of "computer art" done entirely with the graphics characters in your INTELLIVISION™ system. If you add a printer to your system in the future, you will get even more pleasure from this mental exercise, as you will then be able to print out and keep what you create. Remember that in Typewriter Mode, when an image leaves the screen, it leaves for good.

FOR THOSE WHO CAN'T RESIST EXPERIMENTING . . .

Some random notes on special conditions you will find if you start a little "serious" fooling around. If you encounter any of these conditions, don't worry. Your INTELLIVISION™ isn't malfunctioning. It's supposed to work this way.

IN MONITOR MODE . . .

1. Letter keys ONLY print in upper case.
2. Brackets keys only print in lower case.
3. Blue ←, ↑ and → keys only perform their upper case functions (that is, print characters <, | and >).
4. The following keys perform the same function as the RETURN key (enter a command and carriage return):
BLUE  KEY
CTRL-J
CTRL-M
5. You can type anything you like when you are addressing the monitor .. as long as your command isn't much longer than one line. At the end of a line, if you don't press RETURN (which enters and ends your command), your command will continue over to the next line, but only for six spaces. It will then stop. The RETURN key won't work. You'll have to press the DEL key a few times to back up, and then press RETURN. After all that, the computer still won't understand your command.
6. If you type a command "TAKE ME TO YOUR LEADER .." and the first word (TAKE) begins with the first letter of one of the commands in the index (T), the computer will read your command as the command from the index (in this case, TAPE). When you press RETURN, the computer will take you to Tape Mode. With a little imagination, you can have fun with this feature.

IN TAPE MODE . . .

As soon as the computer starts rewinding or loading, you are in Tape Mode. If you change your mind at this point, you must go back to the monitor by typing CTRL-C twice, before choosing a different mode or capability.

Because of a special coding on your INTELLIVISION™ cassettes, they cannot be duplicated without a noticeable loss in quality.

CLEAN . . .

If you type CLEAN (and hit RETURN) with a tape in the housing, the tape will play. It will not erase or record the tape.

Cassette drive will go into the head and capstan cleaning mode

KEEPING YOUR COMPUTER HAPPY

(Preventative Maintenance You Can Do Yourself)

1. CLEAN THE RECORD MECHANISM IN THE CASSETTE RECORDER REGULARLY. This includes the tape heads, capstan and roller (see illus. below). Do it after roughly every 5 hours of use. It only takes a couple of minutes and will make a big difference in the sound you hear and the life of your cassette tapes. HERE'S HOW:

Use good quality cotton swabs and a commercial tape head cleaner or 95% denatured alcohol. For convenience, keep these items near your INTELLIVISION™ system.

(PIX--Bottle of alcohol or cleaner and cotton swabs)

GO TO MONITOR MODE. Then press **E** and RETURN to open the cassette housing. Start the CLEAN function by typing CL and pressing RETURN. This will move the tape heads forward and start the roller moving.

(PIX--interior of cassette housing)

(CALLOUTS) HEADS CAPSTAN ROLLER (turns clockwise)

Wet a cotton swab in the cleaner or alcohol. Remove excess moisture but do not use your fingers, as you may leave traces of oil on the swab. (Oil and tape heads are not at all compatible.)

- Clean the heads by gently rubbing the swab back and forth across them (not up and down).
- Clean the roller by holding the swab against it as it turns (on the right side).
- To clean the capstan, return to the Monitor (press CTRL-C twice). This will stop the CLEAN function. The roller will move away from the capstan and you can now clean the capstan.

If you drip a little cleaner or alcohol into the record mechanism, don't worry. It'll evaporate too quickly to do any damage.

When you're finished cleaning the record mechanism, look at the cotton swab you used. What you see on the swab was coming between your cassette tape and the tape head (the part of the mechanism that plays or records the tape).

Keeping Your Computer Happy (cont'd)

TWO FINAL CAUTIONS ABOUT CLEANING . . .

- Do not use water, soap or a dry cloth on the tape heads, as these things will leave a residue or scratch the heads.
 - Do not use cleaning cassettes in your recorder. Most are too abrasive and you run the risk of damaging your tape heads if you use them.
2. Keep the dust away from your INTELLIVISION™ system. When it is not in use, cover your INTELLIVISION with a clean cloth.
 3. Avoid static electricity build-up. This can be a problem in dry climates or in winter, especially if your INTELLIVISION system is kept in a carpeted room. Use an anti-static spray on carpets and rugs. (You can buy this in most computer stereo or general merchandise stores.)

If you think the static build-up is high, "ground" yourself by touching a metal surface (you'll feel a slight shock), before you handle a cassette.

4. Store your cassette tapes away from extreme hot or cold areas, moisture, and strong magnetic fields (such as those in high power stereo speakers, the back of a TV set, telephones, etc.).
5. Always remove cassette tapes from the recorder when you are finished using them. Do not leave cassettes in the housing.

COMPUTER IN DISTRESS

If your INTELLIVISION™ is not acting as intelligently as it should, try a few simple troubleshooting procedures.

<u>PROBLEM</u>	<u>SOLUTION</u>
1. Screen remains blank when you turn your system on.	<p>1. Make sure your TV set is plugged in. (We are not being patronizing -- this solves the problem more often than you'd imagine.)</p> <p>Disconnect the Antenna Switch Box at the TV antenna terminals and hook your TV antenna or cable directly to your set's antenna connections. Still nothing? Call your TV repair man.</p>
2. Nothing but snow on the screen.	<p>2. Turn the Master Component OFF then ON again. Press the RESET button.</p> <p>Make sure your TV is set on the same channel as your Master Component. (This involves unscrewing the Master Component from the Keyboard Component and checking the bottom of the Master Component.)</p> <p>Turn the Antenna Switch Box from GAME to TV and flip through the channels. Is your regular TV reception okay?</p> <ul style="list-style-type: none">● <u>IF NO</u>, the problem is either the Antenna Switch Box or your TV. Disconnect the Antenna Switch Box. Connect your TV antenna or cable directly to the TV set. If your TV is okay alone, call the SERVICE NUMBER on the inside front cover of this book. If your TV does not work alone, call your TV repair man.● <u>IF YES</u>, check connections at the following places:<ul style="list-style-type: none">- the Switch Box Cable into the Switch Box.- the Switch Box Cable and Cable Extender into the Keyboard Component.- the Power Cord and Flat Ribbon Cable between the Keyboard Component and Master Component. (This involves disassembling the components. Reverse the assembly instructions on pages 4 and 5.)

Computer In Distress (cont'd)

PROBLEM	SOLUTION
2. cont'd	If all connections are secure and the system still doesn't work, disconnect the Master Component from the Keyboard Component. Plug the Master Component Power Cord directly into a wall outlet. Plug the Switch Box Cable into the Master Component and the Antenna Switch Box, bypassing the Keyboard Component. Insert a game cartridge into the right side of the Master Component. If the Master Component works alone, the problem is in the Keyboard Component. If it doesn't, the Master Component is your problem. EITHER WAY, CALL YOUR SERVICE NUMBER.
3. Picture jumpy	3. Make sure the Switch Box Cable and Cable Extender are plugged all the way into the back of the Keyboard Component.
4. "BAD TAPE" prints out on screen during cassette play	4. The computer has come across a programming error on the tape. If it can correct the error itself, it will. If it cannot, it will automatically eject the tape. Return the tape to Mattel if it is still under warranty.
5. Tape breaks or becomes tangled in the record mechanism while in play	5. EMERGENCY EJECT PROCEDURE Stop the tape immediately, by typing CTRL-C twice. Run a credit card down and along the right side of the cassette housing, from back to front. This will trip the Emergency Eject mechanism and the cassette housing door will open.* If tape is tangled, CAREFULLY untangle it and remove the cassette. If the tape is wrinkled, do not attempt to reuse it, as it may become tangled again.
(PIX--Tape being wound into cassette using pencil in take-up reel hole)	If the tape is not wrinkled, wind it carefully back into the cassette, using a pencil, as shown in this illustration.

* This is an emergency procedure only. Do not use it for normal removal of a cassette, since it does not rewind the tape and will leave a small section of tape exposed.

Computer In Distress (cont'd)

(shaded
box)

REMEMBER! If these simple procedures don't take care of your problem or if you have ANY questions, CALL THE TOLL-FREE NUMBER LISTED IN THE INSIDE FRONT COVER OF THIS BOOK. California residents call the 213 number, collect or direct.

GLOSSARY

A reference of terms that may be new to you.

ADDRESSING THE MONITOR. Communicating directly with the monitor by means of commands.

BASIC. The "high level" computer language that allows you to write your own computer programs.

BINARY NUMBER. A two-digit number using only the digits 0 and 1. (00, 01, 10, 11)
All information stored in a computer is stored as binary numbers.

BIT. An abbreviation for "binary digit" -- a single digit (0 or 1) in a binary number.

BYTE. A series of bits (usually 8) considered as a unit by the computer. A unit of measurement for a computer's memory.

CHARACTER. A letter, number or special symbol (such as #, %, or *).

CURSOR. A small square that tells you where the next character that you type will appear on the screen.

FRAME. The entire image on the TV screen at any given time.

FUNCTION. A word used to describe what a thing does. (DELETE is a function of the keyboard.)

HARDWARE. The actual mechanical and electrical devices and circuitry used in a computer system.

HOME POSITION. The upper left corner of the screen.

INSTRUCTION. Computer information in the form of a word or group of words which tell the computer what operation to perform. Special groups of instructions are called programs.

I/O PORT (INPUT/OUTPUT PORT). An electrical connection through which external equipment (peripherals) can be attached to and communicate with the computer.

Glossery (cont'd)

K. Abbreviation for the number 1,024. (16K means 16,384)

MEMORY. The part of the computer that holds data and instructions for later use. The amount of information a computer can store is usually measured in bytes. Your INTELLIVISION has 16K bytes of Random Access Memory (see below).

MODE. A way in which your computer can be used. Cartridge, Tape, Typewriter and BASIC are ways in which you can use your INTELLIVISION™ system.

MONITOR. Permanently stored memory (ROM) that controls the flow of information within the computer. One of the things it does is take you into and out of different modes.

MONITOR FRAME. Shows the INTELLIVISION™ title and indicates that you are now addressing the monitor.

PERIPHERAL. An external electro/mechanical device (such as a printer) that inputs or outputs information from the computer. These devices are connected to the computer via the I/O ports.

PROGRAM. A special set of instructions that the computer stores until you command it to follow those instructions. The means by which you command the computer to receive, process, store and deliver information.

PROMPT CHARACTER > . Appears at the beginning of a line, indicating that the computer is ready to receive a new command or line of information.

RAM (RANDOM ACCESS MEMORY). The main memory of the computer, stored in the Keyboard Component. You can "write" information into this memory, using the keyboard, or "read" information out of this memory, using the TV screen, an external printer, etc. The information you write in is erased when you turn the computer off. For permanent storage, the information should be transferred to a cassette tape.

ROM (READ ONLY MEMORY). Permanently programmed memory that cannot be erased or changed. The monitor is an example of Read Only Memory. So are game cartridges.

SCROLL. Describes the upward or downward movement of all information on the screen, to make room for more information.

Glossery (cont'd)

SOFTWARE. Computer programs, often stored in cartridge ROM's or cassettes. Additional pre-programmed memory that you can add to your computer so that it will do more.

VIDEO TERMINAL. A peripheral device that displays the necessary video information required for you to interact with the computer. Your TV set becomes a video terminal when used with the INTELLIVISIONSM system.

WORD. A group of characters recognized by the computer as a single instruction or operation to be performed. A word may consist of one byte or several bytes of information.

SPECIFICATIONS FOR YOUR INTELLIVISION™ SYSTEM

(Master Component and Keyboard Component combined)

CPU: Two processor system:

- 16 bit microprocessor/Master Component
- 8 bit microprocessor/Keyboard Component

MEMORY: 16K RAM resident (10 bit) words. Memory can be expanded up to 1000 8K pages (8 megabytes).

KEYBOARD: 60 key typewriter-like keyboard including specialized computer control keys. Upper/lower case.

CONTROLS (Master Component): Two hand controllers; 12 button numeric keypad, four action keys, 16-direction object movement disk.

SOUND: Sound generator capable of producing 3 part harmony.

COLOR: 16 colors.

TAPE CASSETTE DRIVE: Built-in, completely computer controlled. Records/plays two digital and two audio tracks in one direction. 30 minutes of program material and data storage. Drive accepts all Mattel video cassettes.

VIDEO RESOLUTION: Standard; 160 horizontal, 192 vertical picture elements. High resolution graphics; 24 lines of 40 characters.

EXPANDABILITY: Two parallel peripheral I/O expansion ports which allow addition of external memory, peripherals, plus access to CPU bus.

INTENDED PERIPHERALS: Forty column printer; telephone modem; voice synthesizer (planned for 1981 introduction, subject to change).

A LOOK IN THE CRYSTAL BALL . .

There's more in the future for your INTELLIVISION™ system -- add-ons that will allow you to expand your system in the coming years. Some of these future peripherals include:

MODEM -- a telephone device that allows you to receive and transfer information to other computer systems, over your telephone line..

and

PRINTER -- a special peripheral that lets you print on paper what appears on your TV screen.

(MATTEL WARRANTY)

INSIDE BACK COVER

"Warning---This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computer input/output devices, terminals, printers, etc) certified to comply with the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception."